

IN THE CLAIMS:

1. (Original) A method of reprogramming a keratinocyte comprising treating a keratinocyte with a first agent, which promotes the demethylation of a nucleic acid, and a second agent, which inhibits the deacetylation of a histone protein, such that a reprogrammed cell is produced upon treating the keratinocyte with the first agent and the second agent, wherein the reprogrammed cell expresses a telomerase gene product and is capable of expressing a gene product which is not expressed by a keratinocyte.
2. (Original) The method of claim 1 wherein the first agent is a 5-aza-2'-deoxycytidine.
3. (Original) The method of claim 1 wherein the second agent is a trichostatin A.
4. (Original) The method of claim 1 wherein the keratinocyte is a human keratinocyte.
5. (Original) The method of claim 1 wherein the keratinocyte is treated with a third agent, which promotes the arrest of cells in metaphase.
6. (Original) The method of claim 5 wherein the third agent is a Tat-cyclin B.
7. (Original) The method of claim 6 wherein the gene product which is not expressed by a keratinocyte is selected from the group consisting of a neurofilament, a cardiac actin and an alpha-antitrypsin.
8. (Original) The method of claim 6 wherein the gene product which is not expressed by a keratinocyte is a cardiac actin.
9. (Original) The method of claim 5 wherein the keratinocyte is treated with a fourth agent, which promotes cell differentiation.
10. (Original) The method of claim 9 wherein the fourth agent is a retinoic acid.
11. (Original) The method of claim 10 wherein the reprogrammed cell expresses a gene product selected from the group consisting of a neurofilament, a cardiac actin and an alpha-antitrypsin.
12. (Original) The method of claim 10 wherein the reprogrammed cell expresses a cardiac actin gene product.

Claims 13-19 (Cancelled)